What Is Claimed Is:

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1. Apparatus for forming heated glass sheets comprising:

a housing having a heated chamber;

an upper mold support assembly for supporting an upper mold within the heated chamber for cyclical vertical movement between upper and lower positions;

a lower mold shuttle for supporting a lower mold for movement between an idle position horizontally spaced from the upper mold and a use position below the upper mold; and

a lower mold support assembly to which the lower mold is transferred from the lower mold shuttle in the use position to provide support thereof while permitting horizontal alignment of the lower mold with the upper mold as necessary upon each cycle of downward movement of the upper mold for cooperation of the molds to form a heated glass sheet between the molds.

2. Apparatus for forming glass sheets as in claim 1 further comprising vertically movable rollers having an upper position that supports the lower mold shuttle during movement of the lower mold between the idle and use positions and having a lower position at which the lower mold shuttle is moved downwardly with the lower mold in the use position to provide the transfer of the lower mold to the lower mold support assembly.

3. Apparatus for forming glass sheets as in claim 2 further comprising horizontal positioners that cooperate with the rollers to support and guide the

lower mold shuttle during the movement of the lower mold between the idle and use positions.

4. Apparatus for forming glass sheets as in claim 3 further including mounts supported externally of the heated chamber for vertical movement, and each mount supporting one of the rollers and an associated pair of the horizontal positioners.

5. Apparatus for forming glass sheets as in claim 1 wherein the lower mold support assembly includes four lower supports that support the lower mold in the use position below the upper mold.

6. Apparatus for forming glass sheets as in claim 5 wherein each lower support includes a liquid cooled ball.

7. Apparatus for forming glass sheets as in claim 5 wherein each lower support includes a liquid cooled pad.

8. Apparatus for forming glass sheets as in claim 7 wherein each pad is made from a carbon material.

9. Apparatus for forming glass sheets as in claim 5 further including a pair of support members each of which mounts two of the lower supports, the support members mounting a support and stop member, and a gas jet pump array that is supported and positioned by the support and stop member.

10. Apparatus for forming glass sheets as in claim 1 wherein the lower mold shuttle includes a lock

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that secures the lower mold against movement on the lower mold shuttle along its direction of travel during the movement between the idle and use positions.

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11. Apparatus for forming glass sheets as in claim 1 wherein the lower mold shuttle has a tubular construction through which a liquid coolant flows to provide cooling.

12. Apparatus for forming glass sheets as in claim 11 wherein the tubular construction of the lower mold shuttle includes an outer insulator.

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13. Apparatus for forming glass sheets as in claim 1 further including a quench station including lower and upper quench modules for supplying a quench gas, and a quench shuttle that supports and moves a quench ring between: (a) a transfer position below the upper mold in the heated chamber where the quench ring is movable horizontally on the quench shuttle as necessary into alignment with the upper mold upon downward movement of the upper mold to deposit a formed glass sheet supported thereby onto the quench ring; and (b) a quench position between the lower and upper quench modules to provide quenching of the formed glass sheet on the quench ring.

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14. Apparatus for forming glass sheets as in claim 13 further including a lock for preventing horizontal movement of the quench ring on the quench shuttle during movement between the transfer and quench positions.

15. Apparatus for forming glass sheets as in claim 13 wherein the quench station includes a railway having a pair of spaced rails, the quench shuttle including a pair of spaced shuttle members having supported ends that are respectively supported by the pair of spaced rails for the movement of the quench shuttle; and the pair of spaced shuttle members including a pair of cantilevered ends that support the quench ring in a spaced and otherwise unconnected relationship.

16. Apparatus for forming glass sheets comprising:

a housing having a heated chamber;

an upper mold supported within the heated chamber for vertical movement between an upper position and a lower position;

a lower mold for cooperating with the upper mold to provide forming of a heated glass sheet;

a lower mold shuttle that supports the lower mold for movement between an idle position horizontally spaced from the upper mold and a use position below the upper mold;

a lower mold support assembly to which the lower mold is transferred from the lower mold shuttle in the use position to provide support thereof while permitting horizontal movement of the lower mold on the lower mold shuttle;

alignment guides that cooperate to move the lower mold horizontally on the lower mold support as necessary into alignment with the upper mold upon each cycle of downward movement of the upper mold to the lower position to provide the glass sheet forming; and

a quench station including lower and upper quench modules for supplying a quench gas, and a quench

shuttle that supports and moves a quench ring between: (a) a transfer position below the upper mold in the heated chamber where the quench ring is movable horizontally on the quench shuttle as necessary into alignment with the upper mold upon downward movement of the upper mold to deposit a formed glass sheet supported thereby onto the quench ring; and (b) a quench position between the lower and upper quench modules to provide quenching of the formed glass sheet on the quench ring.

17. A method for forming a glass sheet comprising:

heating the glass sheet during conveyance thereof on a horizontally extending conveyor;

moving an upper mold downwardly to receive the heated glass sheet from the conveyor and then moving the upper mold upwardly with the glass sheet supported thereby;

moving a lower mold horizontally on a lower mold shuttle from an idle position horizontally spaced from the upper mold to a use position below the upper mold with the glass sheet supported thereby;

transferring the lower mold in the use position from the lower mold shuttle to a lower mold support assembly;

thereafter moving the upper mold downwardly toward the lower mold and moving the lower mold horizontally on the lower mold support assembly as necessary into alignment with the upper mold and then forming the glass sheet between the molds; and

thereafter moving the upper mold upwardly and transferring the lower mold from the lower mold support assembly back to the lower mold shuttle for horizontal movement thereon from below the upper mold back to the

idle position to permit delivery of the formed glass sheet from the upper mold for cooling.

18. A method for forming a glass sheet as in claim 17 wherein the lower mold shuttle is supported by rollers during the horizontal movement of the lower mold between the idle and use positions, and the rollers being moved vertically to transfer the lower mold between the lower mold shuttle and the lower mold support assembly.

19. A method for forming a glass sheet as in claim 17 wherein the lower mold is locked on the lower mold shuttle to prevent movement with respect thereto along the direction of travel during the movement thereof between the idle and use positions.

20. A method for forming a glass sheet as in claim 17 wherein the formed glass sheet is deposited from the upper mold onto a quench ring for delivery to a quench station for quenching.

21. A method for forming a glass sheet as in claim 20 wherein the quench ring is moved on a quench shuttle and is locked with respect thereto during movement between the upper mold and the quench station but is unlocked at the upper mold to permit movement with respect to the quench shuttle as necessary into alignment with the upper mold.